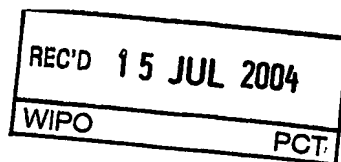


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)



Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/2066	International filing date (<i>day/month/year</i>) 30.10.2003	Priority date (<i>day/month/year</i>) 12.11.2002
International Patent Classification (IPC) or both national classification and IPC A61K7/06		
Applicant UNILEVER PLC et al.		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	<p>This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>
3.	<p>This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 22.03.2004	Date of completion of this report 14.07.2004
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div>	Authorized Officer Giese, H-H Telephone No. +49 89 2399-8488 <div style="text-align: right;"> </div>

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/12066**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-25 as originally filed

Claims, Numbers

1-14 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/12066**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	1-14
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Cited documents

1. The following documents (D) are referred to in this communication:

D1: EP-A-0 529 883 A

D2: WO 00/66081 A

D3: US 6 040 282

D4: US 6 090 773

2. Document D1 discloses a shampoo comprising (a) 0,01-50% of a surfactant, (b) 0,01-10% of a cationic polymer, (c) 0,01-50% of a conditioning oil and (d) 20-99% of water. The cationic polymer is either cationic guar gum derivative or a cationic cellulose ether derivative. This piece of prior art does not reveal the parallel use of two cationic polymers with the identical base monomer and specific charge densities.

Document D2 relates to a shampoo having (a) 5-50% of a surfactant, (b) 0,02-5% of a combination of a cationic guar gum with a charge density of 0,05-0,9 meq/g and a cationic cellulose with a charge density of 0,2-0,6 meq/g, (c) 0,01-10% of a silicone conditioning agent and (d) 20-94,75% of water. This document proposes to use two different cationic polymers without giving individual weight ranges.

Document D3 describes a shampoo for styling comprising (a) 5-50% of a surfactant, 0,025-3% of a cationic deposition polymer which is a combination of guar gum and cellulose, (c) 0,1-3% of a silicone conditioning agent and (d) 22-93,4% of water. This document lacks in teaching two cationic polymers with the same base monomer.

Novelty (Article 33(2) PCT)

3. The present independent product claim 1 defines a hair-washing composition comprising (a) 1-50% of a surfactant, (b) 0,01-0,5% of a first cationic polymer, (c) 0,01-0,4% of a second polymer, (d) more than 40% of water and (e) 0,1-10% of a discrete, dispersed droplet of conditioning oil wherein the cationic polymers have the same monomeric units and the same cationic substituents. The present independent method claim 20 defines step (a) massaging the composition into the hair, (b) rinsing and (c) drying the hair.
4. None of the cited prior art documents teaches that two cationic polymers with the

same monomeric units are comprised in a shampoo which each have different charge densities.

Therefore, present claims 1 to 14 are considered to be novel (Article 33(2) PCT).

Inventive Step (Article 33(3) PCT)

5. The problem to be solved in present application was to make the hair easier to comb when wet and more manageable when dry and to provide low friction and ease of combing for dry hair (see page 1, lines 23-29). The solution proposed by the present application is the claimed specific combination of cationic polymers (see page 2, lines 11-20).
6. The same technical problem as defined in the present application appears to be solved by the disclosure in document D4 (see col. 3, lines 50-54). The solution proposed by D4 is to use two cationic conditioning polymers selected from (a) cationic cellulose, (b) cationic guar and (c) cationic polyacrylamide (see claim 1). This document does not propose or leads the skilled man to use two cationic polymers of the same monomeric unit with the same cationic substituents but different charge densities.

Therefore, present claims involve an inventive step (Article 33(3) PCT).